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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,132	12/20/2000	Akira Osamato	TI-29873	6611

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EXAMINER

WILSON, JACQUELINE B

ART UNIT PAPER NUMBER

2612

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/745,132

Applicant(s)

OSAMATO, AKIRA

Examiner

Jacqueline Wilson

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 2 is/are allowed.
- 6) ☒ Claim(s) 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/04/04 have been fully considered but they are not persuasive. The applicant argues that the prior art fails to interpolate the complementary color subarrays. The examiner strongly disagrees. Takizawa et al discloses in col. 8, lines 44+ that the various mosaic filters such as complementary colors are used (see fig. 4-6). Therefore, the rejection of Claim 3 is maintained.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 3 is rejected under 35 U.S.C. 102(e) as being anticipated by Takizawa et al. (US 6,388,706).

Regarding Claim 3, Takizawa et al teaches an interpolator for the color subarrays of a complementary-color filtered array (7a; see also col. 8, lines 44+), a filter coupled to the output of the interpolator (referred to as performing white balance and gain

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adjustments) to adjust the interpolated colors at each pixel by adjusting with an imbalance factor (coefficients A_r , A_g , and A_b) for the pixel (col. 13, lines 53- col. 14, line 23).

Allowable Subject Matter

3. Claims 1 and 2 are allowed.

The prior art neither teaches nor fairly suggests a method of interpolation for a complementary-color-filtered array image, comprising the steps of:

(a) provide a complementary-color-filtered array of pixel values with yellow pixel values Y_e on a first subarray, cyan pixel values C_y on a second subarray, magenta pixel values M_g on a third subarray, and green pixel values G on a fourth subarray;

(b) interpolating the subarray of yellow pixel values to form a yellow array;

(c) interpolating the subarray of cyan pixel values to form a cyan array;

(d) interpolating the subarray of magenta pixel values to form a magenta array;

(e) interpolating the subarray of green pixel values to form a green array;

(f) adjusting the color values for each pixel by

(i) **subtracting a quantity $(Y_e + C_y - 2 \cdot G - M_g)/4$ from Y_e to generate the pixel's adjusted yellow value** where Y_e is the pixel's yellow value from step (b), C_y is the pixel's cyan value from step (c), M_g is the pixel's

magenta value from step (d), and G is the pixel's green value from step (e);

(ii) **subtracting the quantity $(Y_e + C_y - 2 \cdot G - M_g)/4$ from C_y to generate the pixel's adjusted cyan value;**

(iii) **adding the quantity $(Y_e + C_y - 2 \cdot G - M_g)/4$ to M_g to generate the pixel's adjusted magenta value; and**

(iv) **adding the quantity $(Y_e + C_y - 2 \cdot G - M_g)/8$ to G to generate the pixel's adjusted green value, as claimed in claim 1.**

Claim 2 is substantially similar to Claim 1.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacqueline Wilson whose telephone number is (571) 272-7322. The examiner can normally be reached on 8:30am-5:00pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JW
05/10/05


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